

IN THE SPECIFICATION:

Please replace paragraph [0021] with the following amended paragraph:

[0021] The waveguide 26 of the embodiment is constructed by covering the outer peripheral surface of the waveguide main body 30 made of a boron nitride (BN) with a thin film 31 made of a titanium nitride (TiN). There is no particular limitation on a method for forming a thin film. For example, a CVD method can be used. A thickness of the thin film is preferably 10 to 500 μm .

Please replace paragraph [0022] with the following amended paragraph:

[0022] In space 29 formed by the inner wall surfaces of the magnetic yoke 23 and the plate 24 and the outer wall surfaces of the plasma chamber 19 and the magnet pole 25, a solenoid coil 28 is arranged to be wound around the convex portion of the magnet pole 25. Thus, a magnetic field is formed along an extracting direction of ions from the plasma chamber 19.